

FIGURE 1

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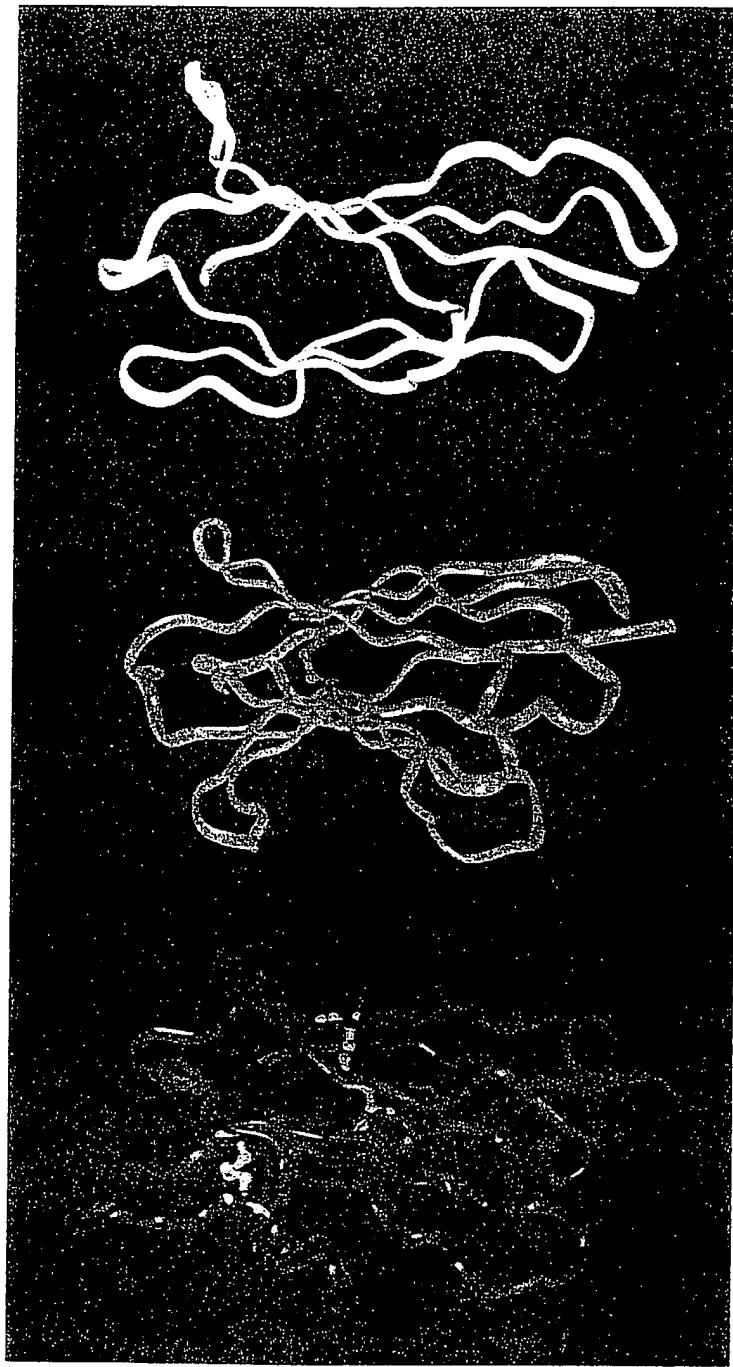


FIGURE 2

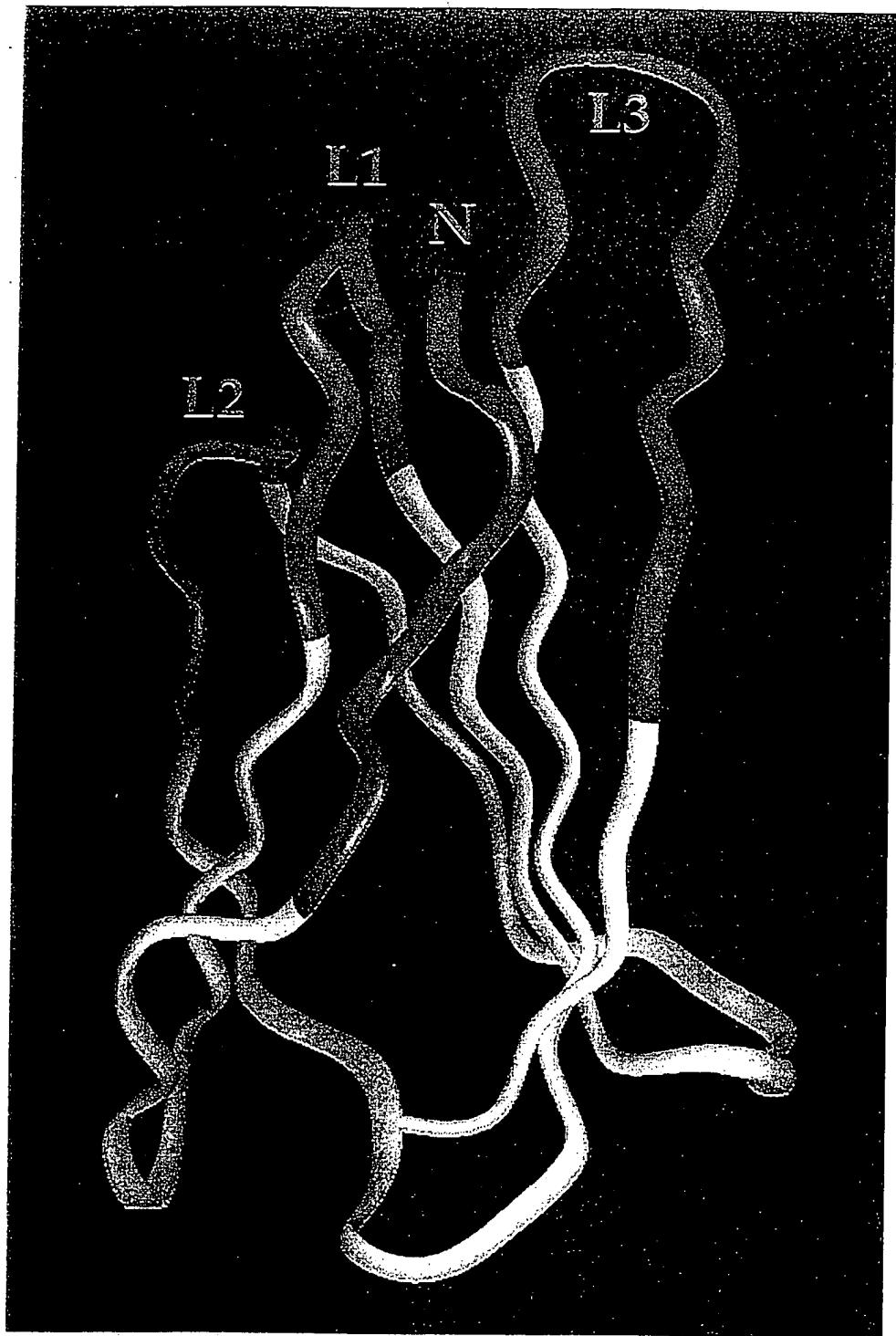


FIGURE 3

1	9 10	19 20	29 30	37 38	47 48	57 58	67 68	77 78	87 88	94
HS FND	VSDVPRD-LE	VVAATPTSLI	ISWDAPAVTV	RYRYITYG--	ETGGNSPQOE	FTVPGSKSTA	TISGLKPGVD	YTITVYAVTG	RGDSPASSKP	ISINYRT
Bt FN	VSDVPRD-LE	VIAATPTSLI	ISWDAPAVTV	RYRYITYG--	ETGGNSPQOE	FTVPGSKSTA	TISGLKPGVD	YTITVYAVTG	RGDSPASSKP	VSINYRT
Rn FN	VSDVPRD-LE	VIASTPTSLI	ISWEPPAVSV	RYRYITYG--	ETGGNSPQOE	FTVPGSKSTA	TINnIKPGAD	YTITLYAVTG	RGDSPASSKP	VSINYQT
Mm FN	VSDIPRD-LE	VIASTPTSLI	ISWEPPAVSV	RYRYITYG--	ETGGNSPQOE	FTVPGSKSTA	TINnIKPGAD	YTITLYAVTG	RGDSPASSKP	VSINYQT
Oc FN	VSDVPRD-LE	VIASTPTSLI	ISWEPPAVTV	RYRYITYG--	ETPPN--	-----	-----	-----	-----	712
Gg FN	VSDVPRD-LE	VNPPTSPLI	ISWDAPAVTV	RYRYITYG--	ETGGSSPQOE	FTVPGTMSFA	TITGLKPGVD	YTITVYAVTG	RGDSPASSKP	VSINYKT
X1 FN	VSDVPRD-LE	VTPSSSPNLT	ISWEPPAVSV	RYRYITYG--	QTGGhGPEKE	FTVPGTSNTA	TIRGLNPGVS	YTITVYAVTG	RGDSPASSKP	VTVTYKT
Cf FN	AiDAPSn-Lr	FLATTPnSLL	VSWQPrARI	TGYIIKYe--	kPGSSPREVV	PrPrPGVTeA	TITGLEPGTE	YTIVQIALK	NQKSEPLIGR	LTIIHKT
Ec FN	AiDAPSn-Lh	FLATTPnSLL	ISWQPrARI	TGYIIKYe--	kPGSSPREVV	PrPhPGVTeA	TITGLEPGTE	YTIVQIALK	NQKSEPLIGR	KTdDEL-
HS TC	VS-PPKD-Lv	VTEVTEETVN	LAWDn-emrV	TeyLvvYTP--	-THEGG1EMQ	PrVPGDQTST	IIQeLePGVE	YTIVQIAK	rKTdEP-	197
SS TP	VS-PPKD-Li	VTEVTEETVN	LAWDn-emrV	TeyLvvYTP--	-THEG1EMQ	FrVPGDQTST	IIReLePGVE	YFIRVFAILE	NKKSiPVSAI	686
Mn TX	MDGPOD-Lr	VVAATPTTL	LSW1rPQAeV	DrFVVSVV--	-SAGNQRV	LeVPPEADT	QLTdLMPGVE	YVVTVTAAERG	HAVSYPASIR	ANTG----
HS CAP	T1PVvvSLN	YQWQp-VGGA	TGYILSYKPV	KDTEPrTrPK	VrlGPTVNM	QLTdLVPNTE	YAVTVOAVLH	dLTsEPVTr	e-----	889
Oc C12	T1PVvvSLN	YQWQp-VGGA	TGYILSYKPV	KDTEPrTrPK	QdVklRdVTH	-----	-----	-----	-----	1551
Gg C14	LalpmaSDLK	LydVShSSMR	AKWnG-VAGA	TGymILYAPL	TEGLAADEKE	IKEIGEASTEL	ELDGLLPNTE	YTIVTVA	MF	322
HS U1	LalpmaSDLK	LydVtensMR	VKWDa-VpGA	SGYLILYAPL	TEGLAGDEKE	MKIGETHdI	ELSGLLPNTE	YTIVTVA	MF	508
var.	---	---	---	---	---	---	---	---	---	321
cons.	P	L	V	SL	W	V	X	I	P	
	M	I	TV	A	F	V	I	L	R	
	L	M								
	F									

Collagen alpha Precursor
C12 Collagen type 12
FND Fibronectin type III domain
FN Fibronectin
TP Tenascin precursor
TC Tenascin-C
U1 Undulin 1

Bt *Bovis taurus*
Cf *Canis familiaris*
Ec *Equus caballus*
SS *Sus scrofa*
Hs *Homo sapiens*
Oc *Oryctolagus cuniculus*
X1 *Xenopus laevis*

BOLD identical to Hs FND

BOLD

lower case

non-conservative substitution
(charge reversal, change between hydrophobic
and charged, addition or removal of P)
position of non-conservative substitutions

FIGURE 4

FIGURE 5

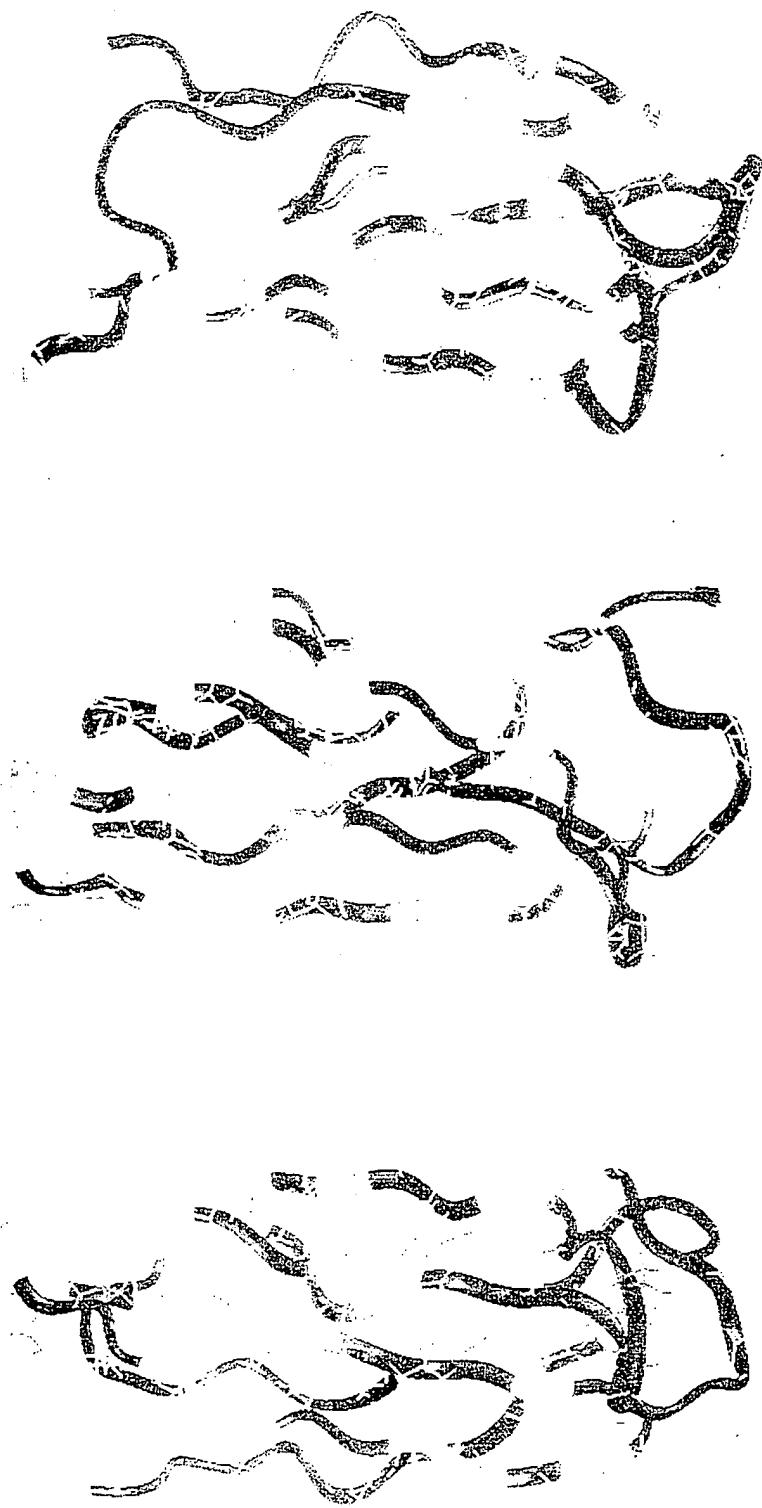
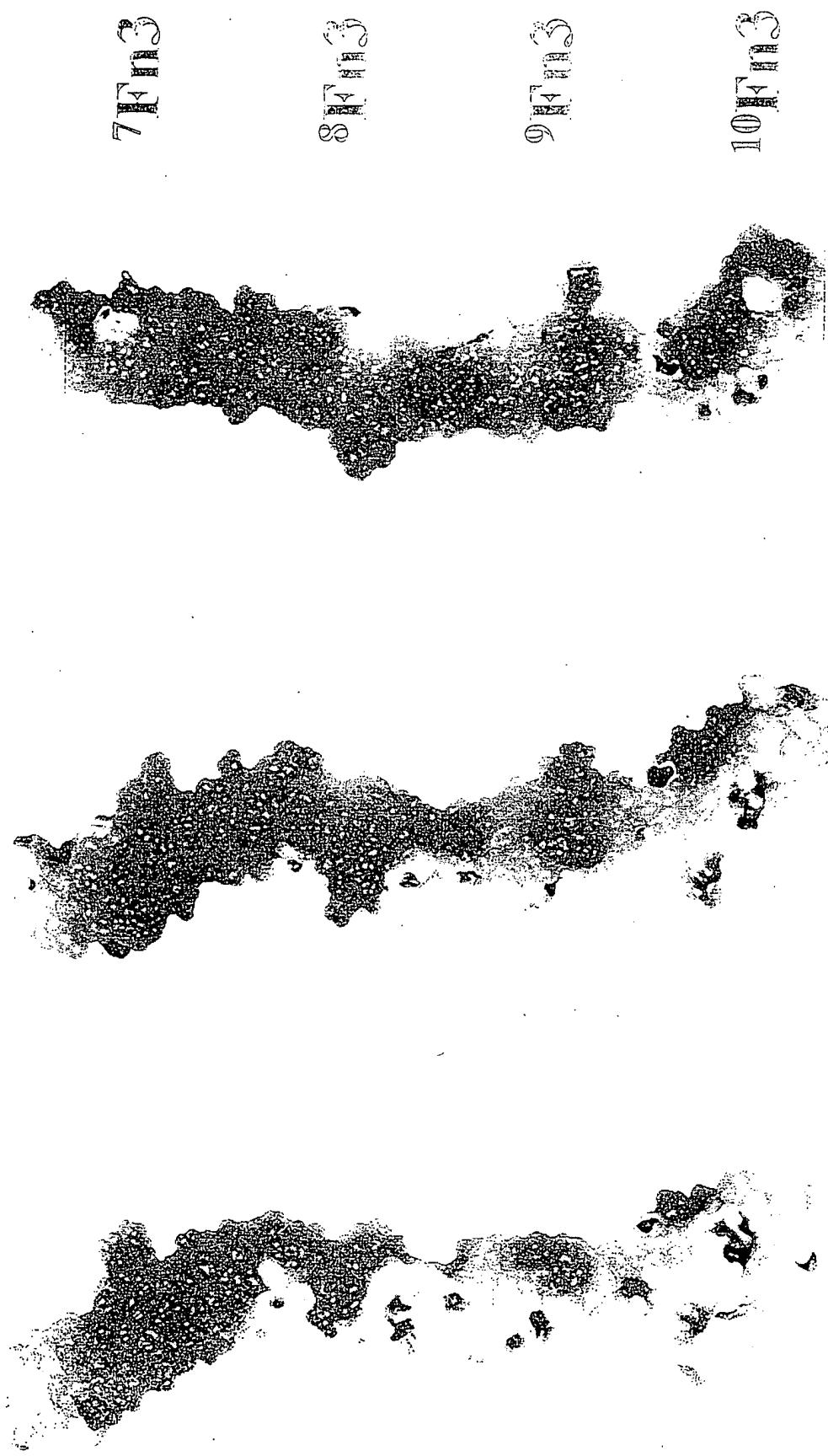


FIGURE 6



FIGURE 7



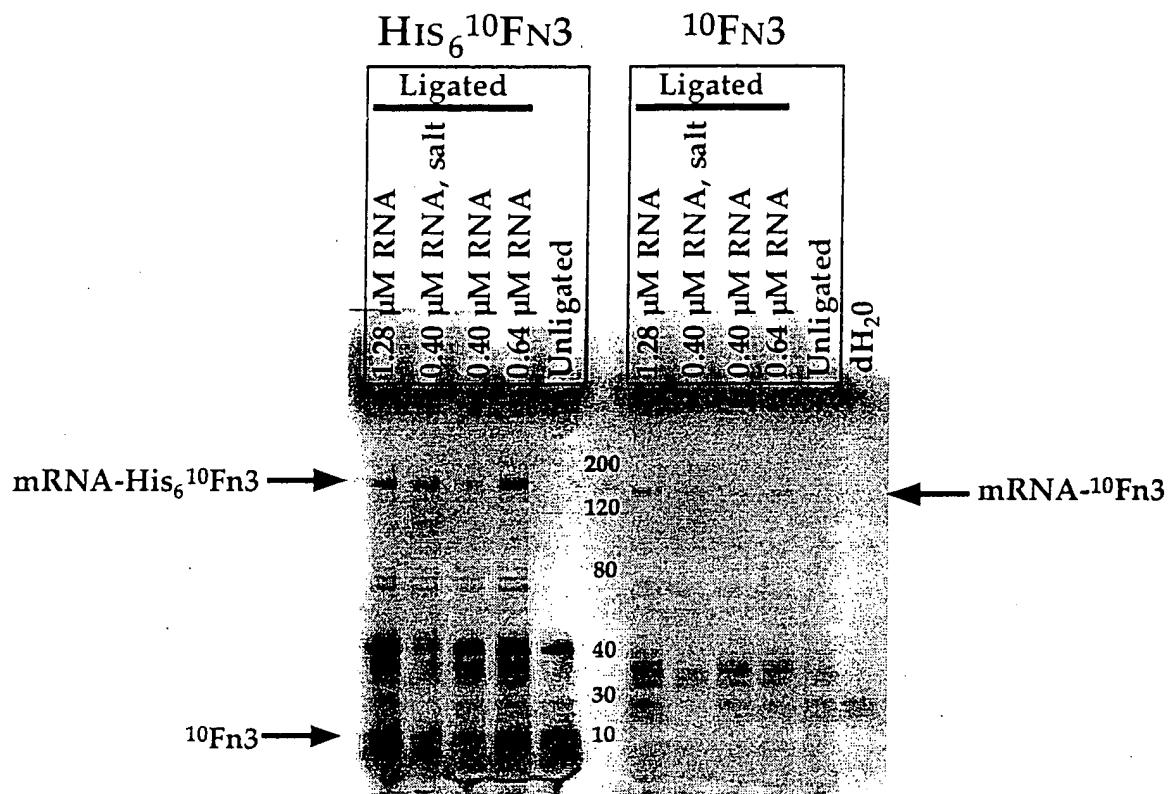


FIGURE 8

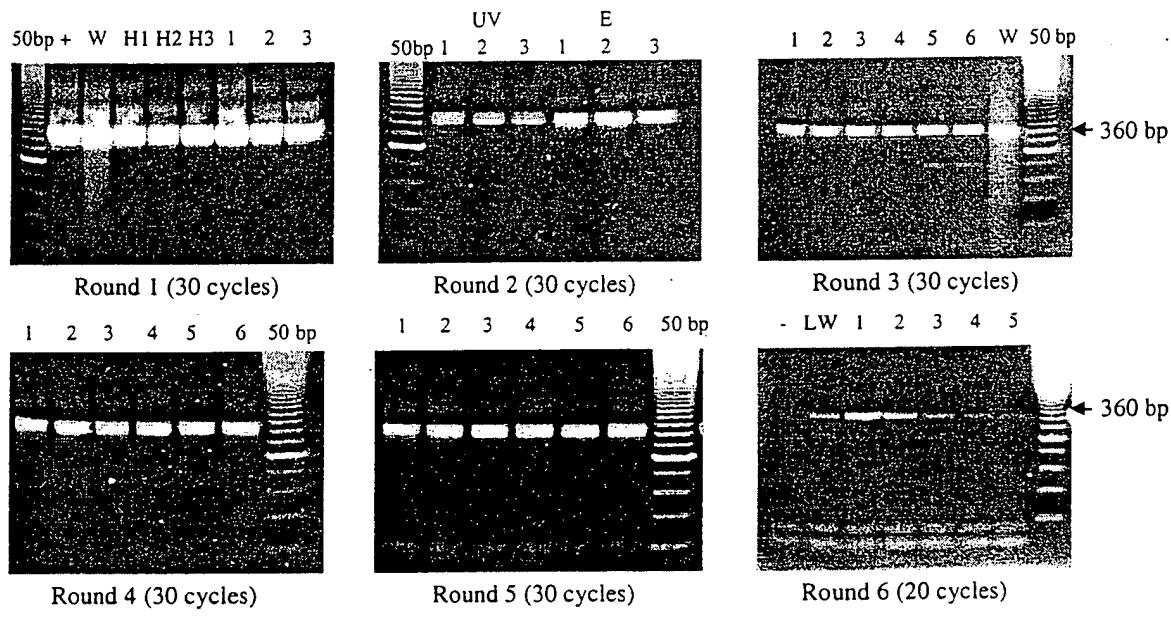


FIGURE 9

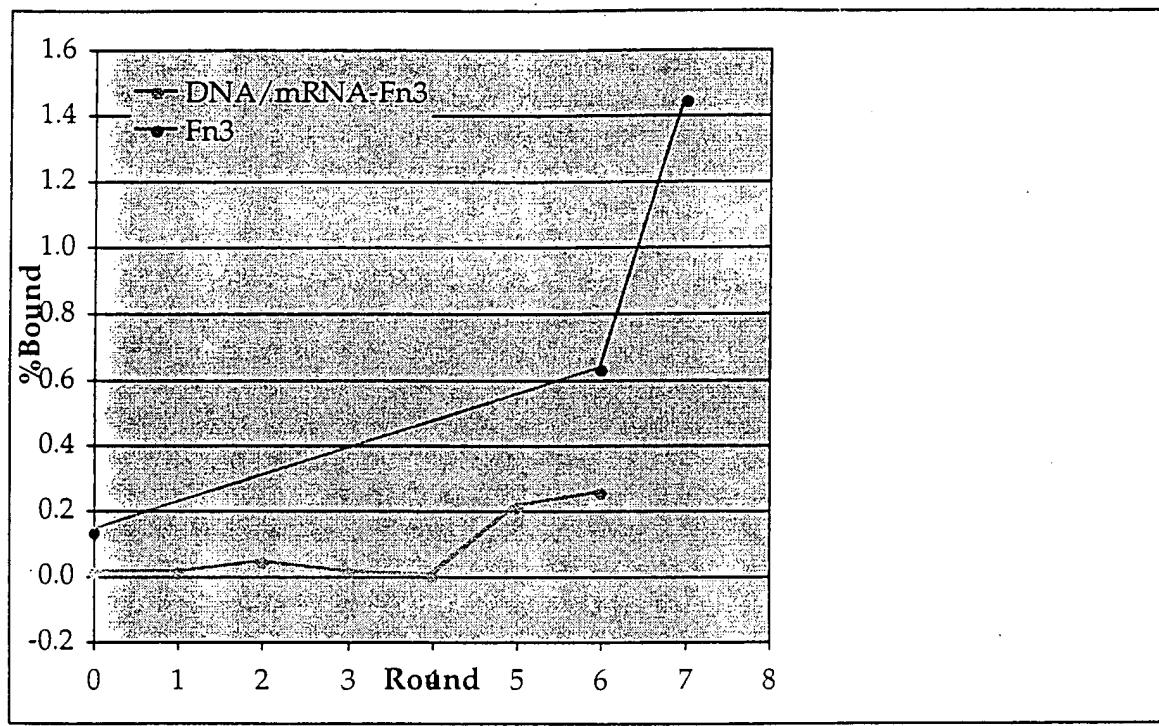


FIGURE 10

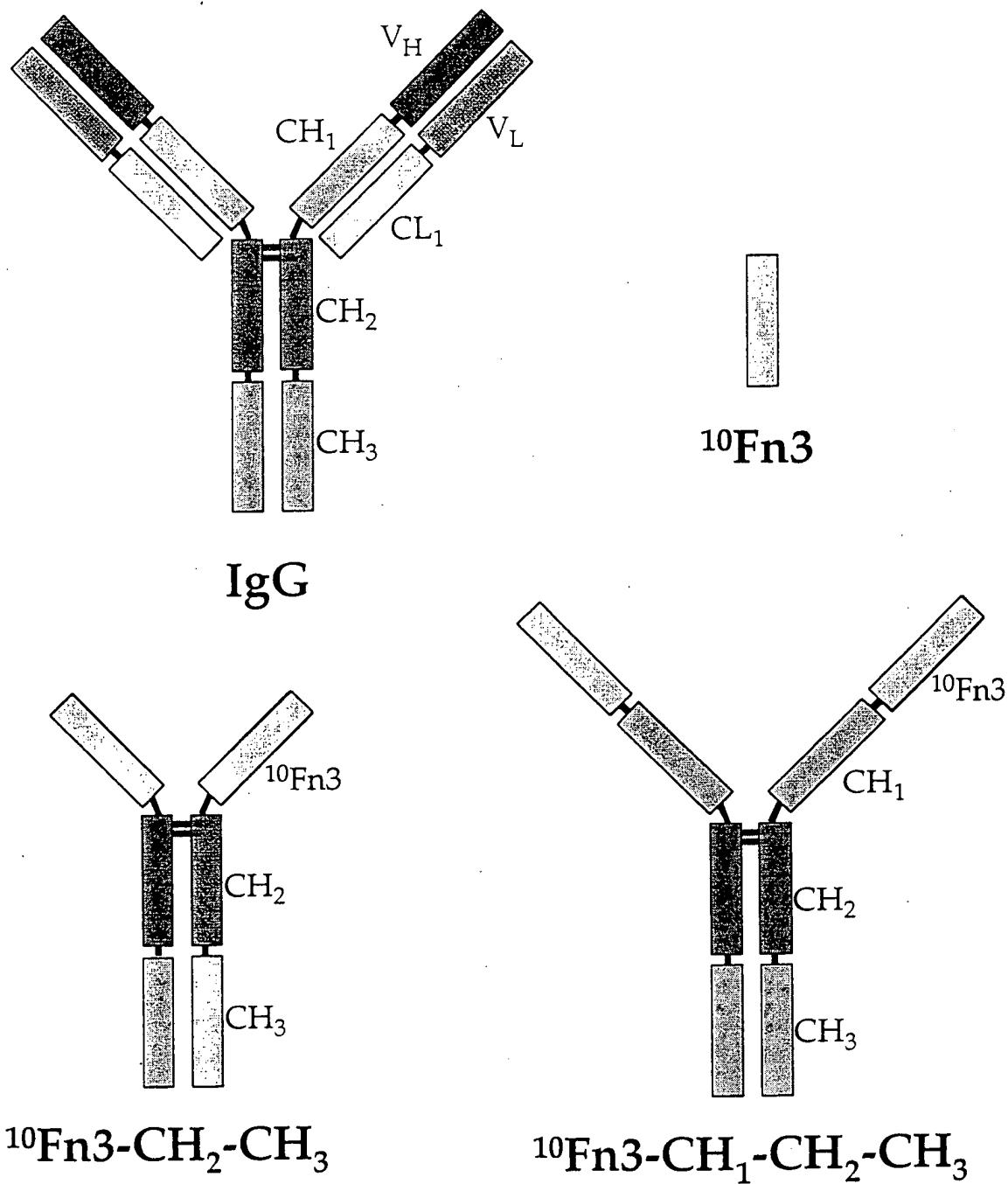


FIGURE 11

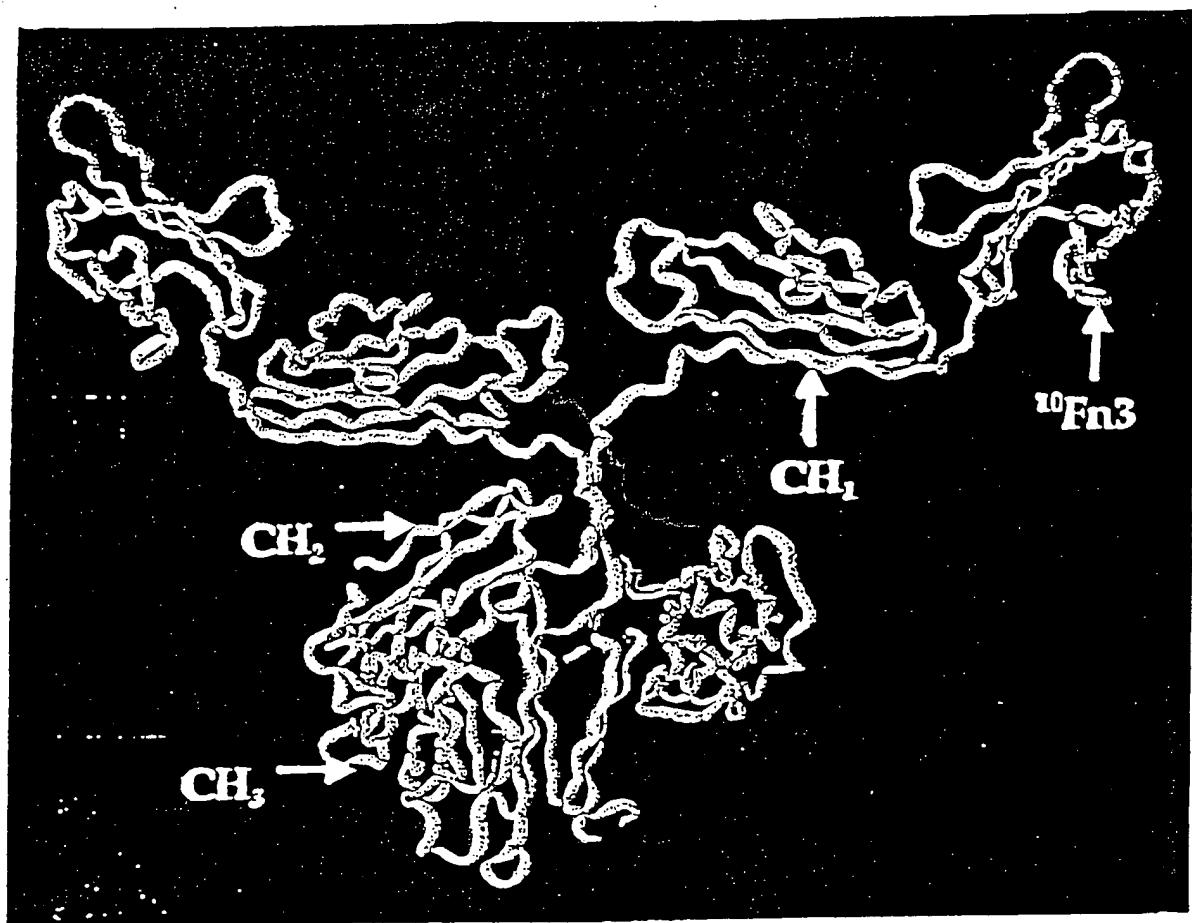


FIGURE 12

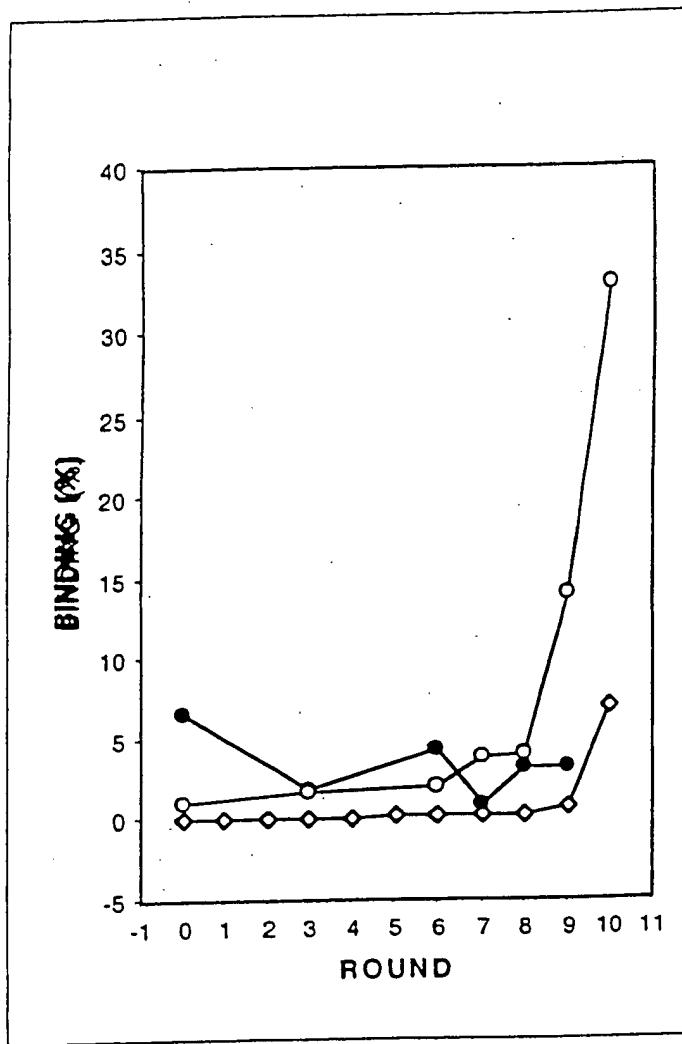


FIGURE 13

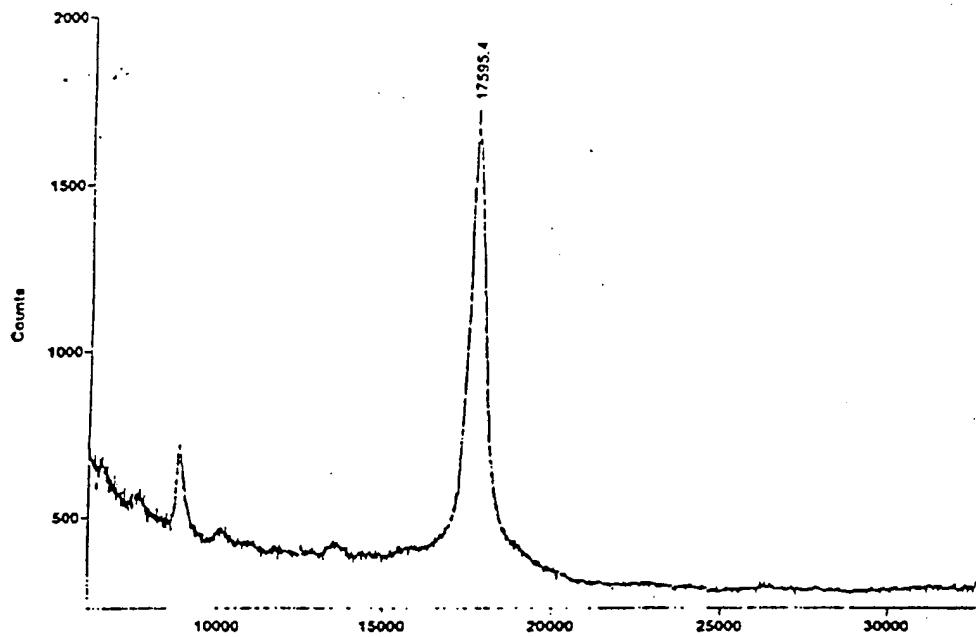


FIGURE 14

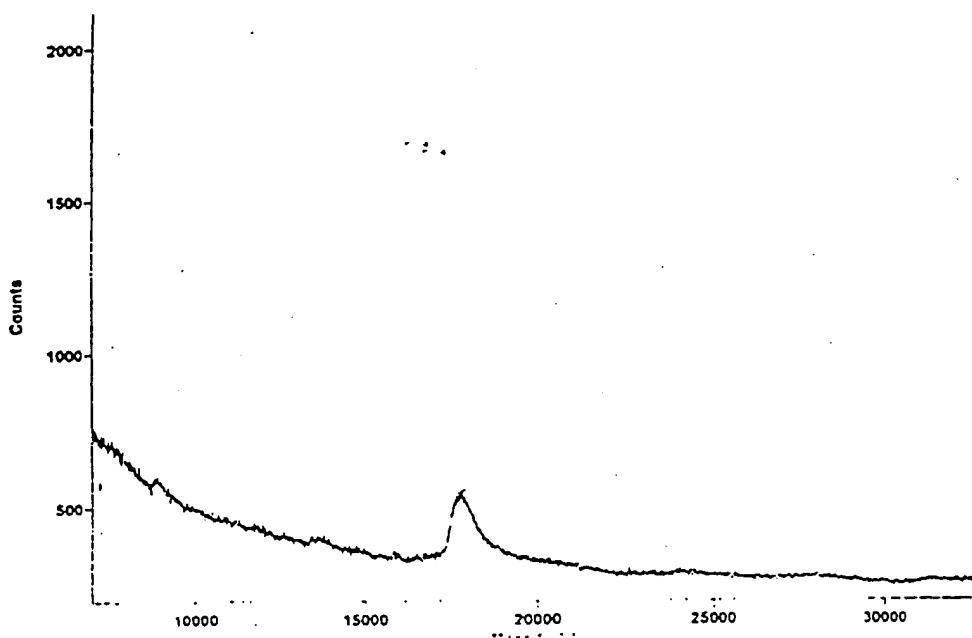


FIGURE 15

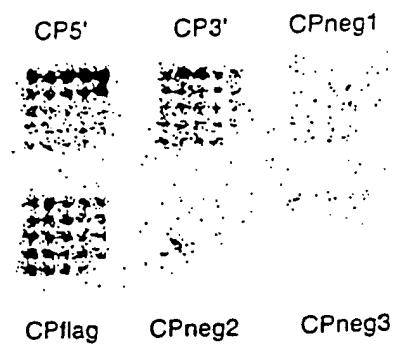


FIGURE 16

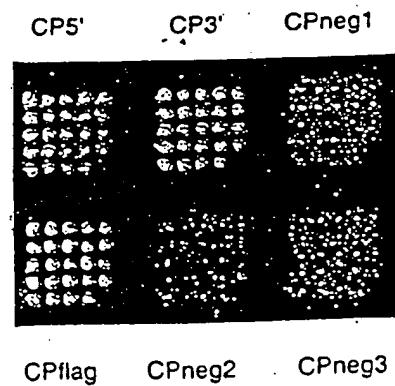
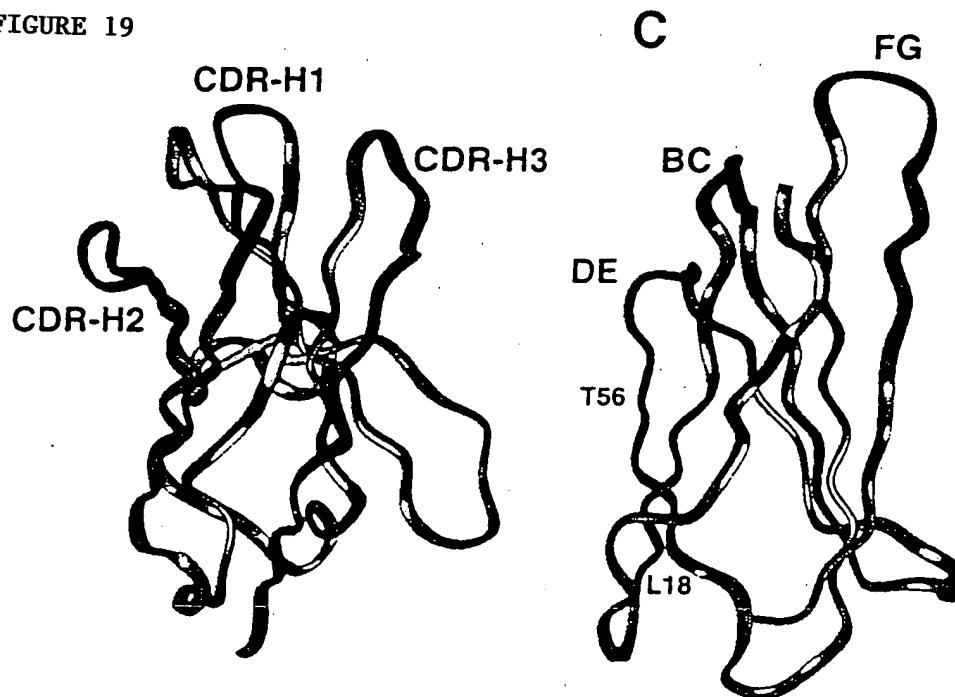


FIGURE 17

FIGURE 18

1	15	16	CDR-H1	45	46	CDR-H2	
Llama <i>V_H</i>	DVQLQESGGGLVQAG GS <u>I</u> RLSCA <u>A</u> SGR <u>I</u> NGS <u>T</u> YD <u>M</u> GWFR <u>Q</u> AP <u>G</u> KER			-ES-VA <u>A</u> IN <u>W</u> DS <u>A</u> RT <u>Y</u>			
Human <i>10Fn3</i>	VSDVPRDLEVVAATP	TS <u>I</u> LF <u>W</u> D <u>P</u> A <u>V</u> I <u>Y</u> R	YYRITYGETGGNSLV	QEFTVPGSKS-----			
	1	15	↓	BC	31	45 46	DE
			R				
			Q				

FIGURE 19



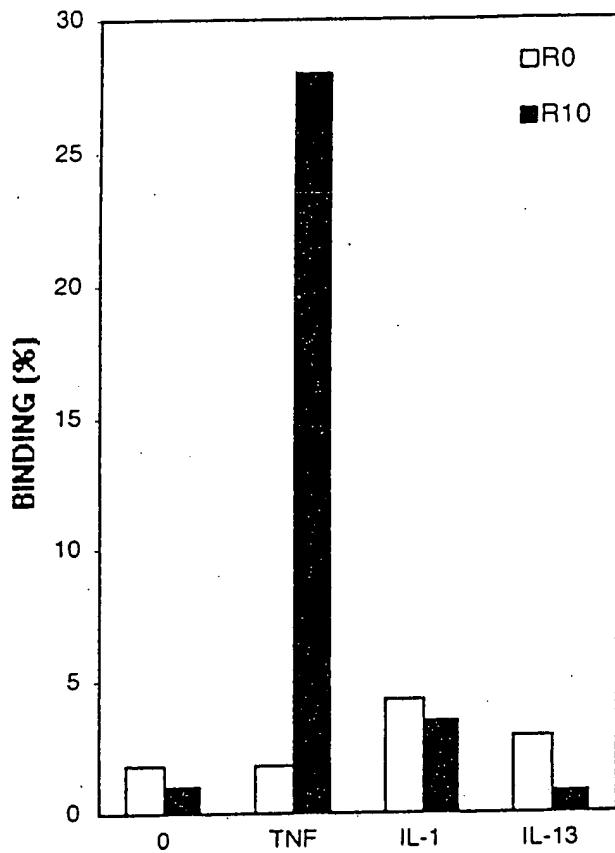


FIGURE 20

IgG-like Scaffolds for the Display of Three Loops

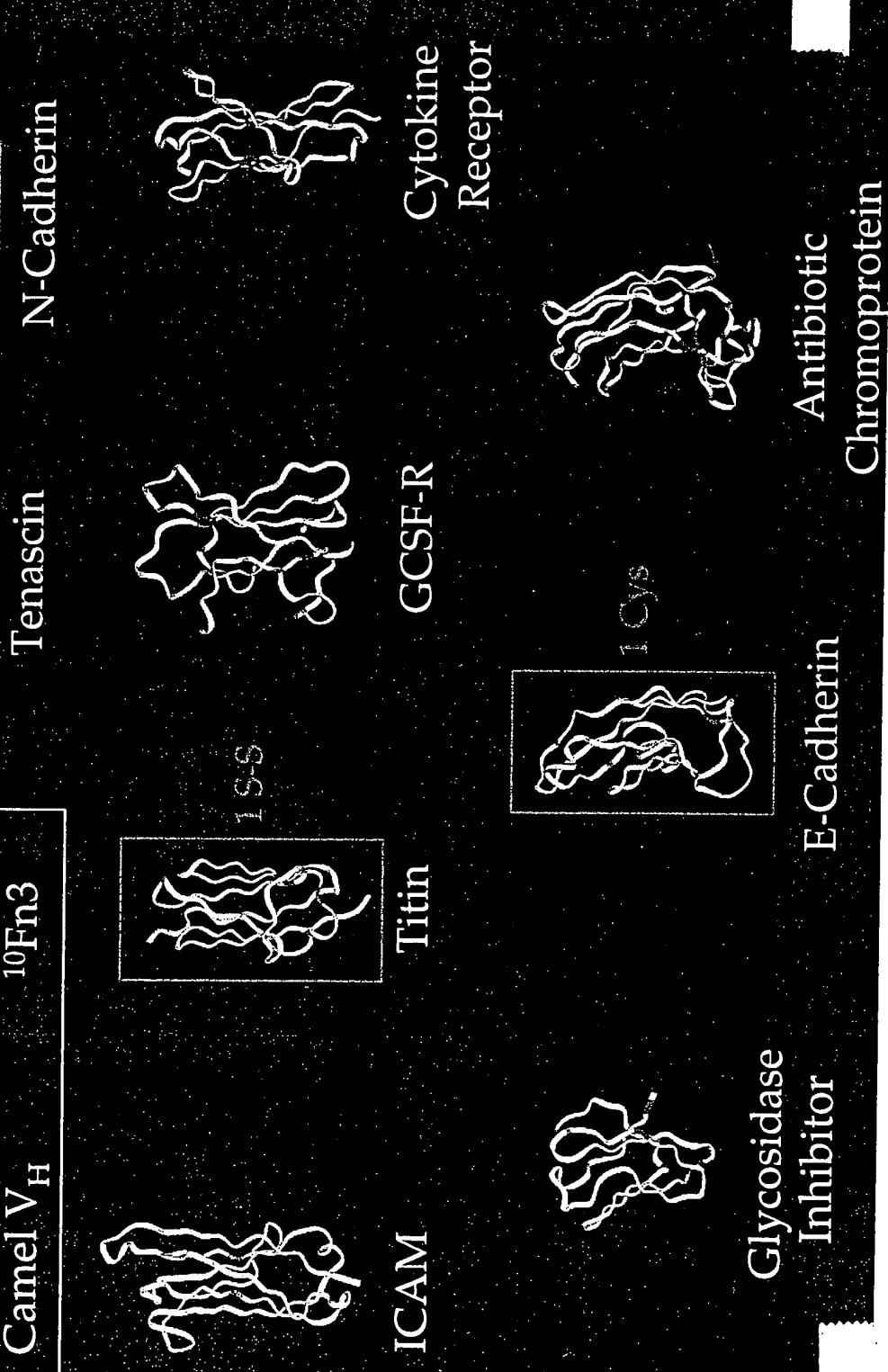
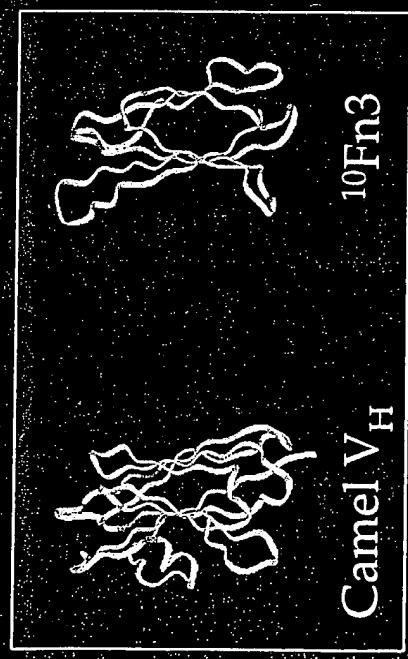
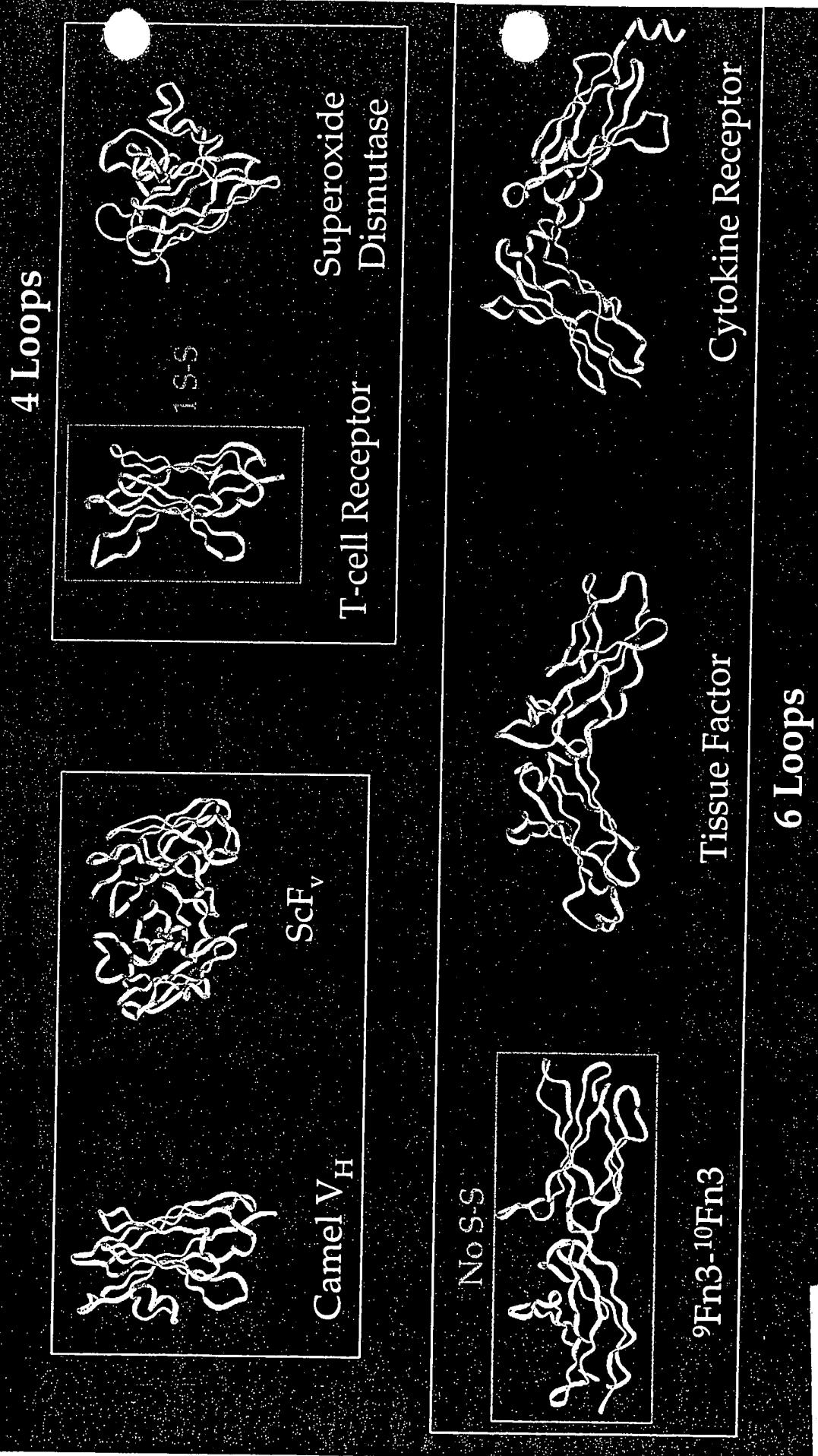
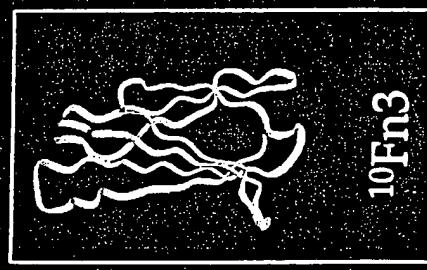


FIGURE 21

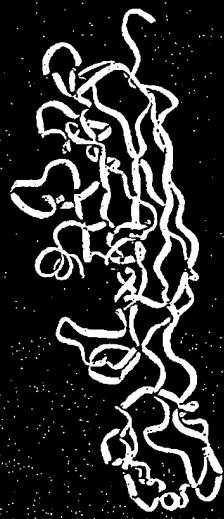
IgG-like Scaffolds for the Display of Four Or Six Loops



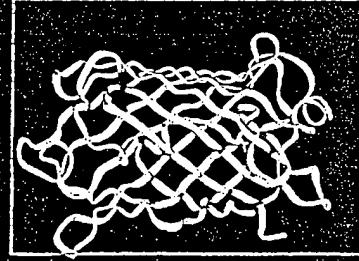
Scaffolds Unrelated to IgG



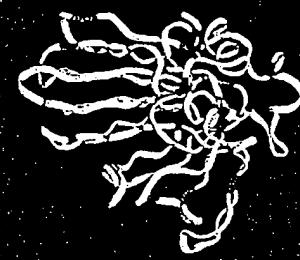
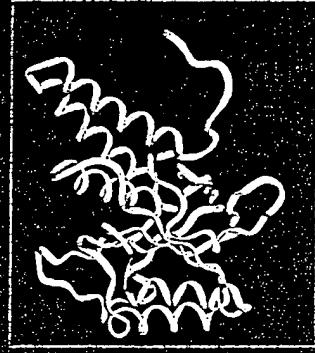
Cytochrome F

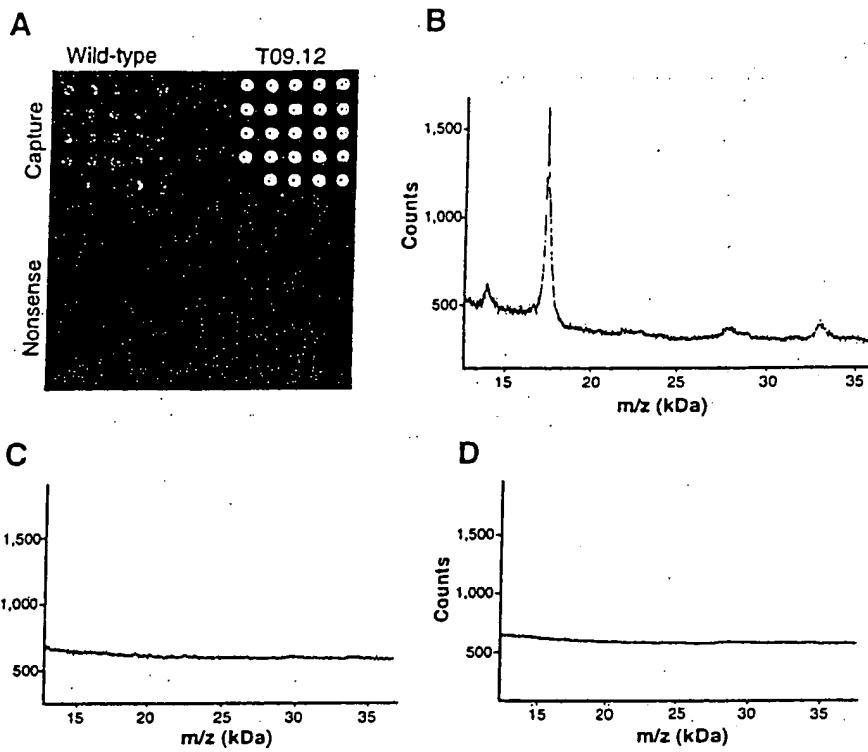


No S-S



No S-S





FIGURES 24A – 24D

WT	15	16	BC	DE	FG	SEQ 1D
T09 . 08	VSDVPRDLEVVAAATP	TSLLISWDAPAVTVR	YYRITYGETGGNISPV	QEFTVPGSKSTATIS	GLKPGVDY-TITVYA	VTGRGDSPASSKPLIS INYRT 33
T09 . 26	VSDVPRDLEVVAAATP	TSLLISWDAPAVTVR	YYRITYGETGGNISLV	QEFTVPGSKSTATIS	GLKPGVDY-DYNTITGYA	VTTRYTRRIDKQPLIS INYRT 34
T09 . 20	VSDVPRDLEVVAAATP	TGLLISWNKSRMTTR	YYRITYGETGGNISPV	QEFTVPELNPTATIS	RLKPGVDY-TITVYA	VTQNGTPRRHLRPNF H 35
T09 . 25	VSDVPRDLDVVAATP	TSLLISWDS---	SHR	QEFTVPTDSTATIS	GLKPGVDY-DYNTIIVHA	VTLTNQNDSHTYPIS INYRT 36
T09 . 30	VSDVPRDLEVVAAATP	TSLLISWHNHHIDMR	YYRSANGETGGNISPV	QEFTVQRRQATIS	GLKPGVDY-TITVYA	VTPDGSRHMLTKPLIS INYRT 57
T09 . 02	VSDVPRDLEVVAAATS	TSLLISWTPASPHG	YYRITYGETGGNISPV	QEFTVPLWPTATIS	GLKPGVDY-TITVYA	VTPKNQGRRQ--G IR 38
T09 . 34	VSDVPRDLEVVAAATP	TSLLISWRTPASPHG	YYRITYGETGGNISPV	EEFTVPLWPTATIS	GLKPGVDY-TITVYA	VTPTHMLKPQSMPLIS INY. 39
T09 . 03 *	VSDVPRDLEVVAAAS	TSLLISWNPRLSR	YYRITYGETGGNISPV	EEFTVPLWPTATIS	GLKPGVDY-TITVYA	VTPTHMLKPQSMPLIS INYRT 40
T09 . 13	VSDVPRDLEVVAAATS	TCLLISWNPRLSR	YYRITYGETGGNISPV	QEFTVPGFLSTATIS	GLNPQGVDY-TITVYA	VTPKETSNIFLAPIS INYRT 41
T09 . 29	VSDVPRDPEVVAATP	TSLLISWDPNIRLRR	YYRITYGETGGNISPV	QEFTVPGFLSTATIS	GLKPGVDY-TITVYA	VTPKETSNIFLAPIS INYRT 42
T09 . 01	VSDVPRDLEVVAAATP	TSLLISWFLSLQDR	DYRITYGETGGNISPV	QEFTVPGFFSTATIS	GLKPGVDY-TITVYA	VTASRNEDTRFGPLIS INYRT 43
T09 . 14	VSDVPRDLEVVAAATP	TSLLISWPRHTYRDR	YYRITYGETGGNISPV	QEFTVPRMKATATIS	GLKPGVDY-TITVYA	ITPPDKMPEPPKGPLIS INYRT 44
T09 . 24	VSDVPRDLEVVAAAP	TSLLISWYRHTYRDR	YYRITYGETGGNISPV	QESTVPPWATTATIS	GLKPGVDY-TIAVYA	VTDTGVDVHTKRPPLIS INYRT 45
T09 . 19	VSDVPRDLEVVAAATP	TSQLISWPGWPSR	YYRITYGETGGNISPV	QEFTVPPWATTAAIS	GLKPGVDY-AIAVYA	VTDTGVDVHTKRPPLIS INYRT 46
T09 . 31	VSDVPRDLEVVAAATP	TSRLISWPGRTYSR	-YRITYGETGGNISPV	QEFTVPPWARTATIS	GLKPGVDY-TITVYA	VTDSDFSQVHTTPNS INYRT 47
T09 . 07	VSDVPRDLEVVAAATP	TSRLISWASPPMCR	YYRITYGETGGNIGPV	QEFTVPPWATTATIS	GLKPGVDY-TITVYA	VTPLPIPTLVHGPPLIS INYRT 48
T09 . 36	VSDVPRDLEVVAAATP	TSRLISWASPPMCR	YYRITYGETGGNISPV	QEFTVPPWATTATIS	GLKPGVDY-TITVYA	VTEYLPEWMNMTQPLIS INYRT 49
T09 . 16	-NTTHYRKNNYYATP	TSRLISWNRSGLQR	YYRITYGETGGNISPV	QEFTVPPWATTATIS	GLKPGVDY-TITMYA	VTEYLPEWMNMTQPLIS INYRT 50
T09 . 23	VSDVPRDLEVVAAATP	TSRLISWNRSGLQR	YYRITYGETGGNISPV	QEFTVPPWASIATIS	GLKPGVDY-TITVYA	VTDSKSDTYKYDDPLIS INYRT 51
T09 . 21	VSDAPRDLEVVAAATP	TSRLISWNRSGLQR	YYRITYGETGGNISPV	QEFTVPPWASIATIS	GLKPGVDY-TITVYA	VTSATRPTVKRD-PLIS INYRT 52
T09 . 33 *	VSDVPRDLDVVAATP	TSRLISWNRSGLQR	YYRITYGETGGNISPV	QEFTVPPWASIATIS	GLKPGVDY-TITMYA	VTSNVGRIDLTRYPLIS INYRT 53
T09 . 10	VSDVPRDLEVVAAATP	TSRLISWNRSGLQR	YYRITYGETGGNISPV	QEFTVPPWASIATIS	GLKPGVDY-TITVYA	VTSNVGRIDLTRYPLIS INY. 54
T09 . 28	VSDVPRDLEVVAAATP	TSRLISWNRSGLQR	YYRITYGETGGNISPV	QEFTVPPWASIATIS	GLKPGVDY-TITVYA	VTKEPQRHALVTPPLIS INYRT 55
T09 . 15	VSDVPRDLEVVAAATP	TSRLISWNPGPFSR	YYRITYGETGGNISPV	QEFTVPPWASIATIS	GLKPGVDY-TITVYA	VTAQTPHNLHDKPLIS INYRS 56
T09 . 09	VSDVPRDLEVVAAAT-	TSLLISWDYNRTGDR	YYRITYGETGGNISPV	QEFTVPPWASIATIS	GLKPGVDY-TITVYA	GLKPGVDY-TITVYA
T09 . 35	VSDVPRDLEVVAAATS	TSLLISWYHLRROPR	YYRITYGETGGNISPV	QEFTVPPWASIATIS	GLKPGVDY-TITVYA	VTAQTPHNLHDKPLIS INYRT 57
T09 . 06	VSDVPRDLDQIVAATP	TSLLISWMDISRYKHR	YYRITYGETGGNISPV	QEFTVPPWASIATIS	GLKPGVDY-TITVYA	VTAQTPGHHLHDEPLIS INYRT 58
T09 . 11	VSDVPRDLEVVAAATP	TSRLISWRPTSNNPR	YYRITYGETGGNISPV	QEFTAPPWASIATIS	GLKPGVDY-TITVYA	VTAQTPGHHLHDKPLIS INYRT 59
T09 . 12 *	VSDVPRDLEVVAAATP	TSRLICWRPTSNNPR	YYRITYGETGGNISPV	QEFTVPPWASIT-IG	GLKPGVDY-TITVYA	VTAQTPGHHLHDKPLIS INYRT 60
T09 . 17	VSDVPRDLEVVAAATP	TSRLISWRPTSNNPR	YYRITYGETGGNISPV	QEFTVPPWASITATIG	GLKPGVDY-TITVYA	VTAQTPGHHLHDKPLIS INYRT 61
T09 . 04	VSDVPRDLEVVAAATP	TSQLISWKTTNPTAR	YYRITYGETGGNISPV	QEFTVPPWATATIS	GLKPGVDY-TITVYA	VTAQTPGHHLHDKPLIS INYRT 62
T09 . 05	VSDVPRDLEVVAAATP	TSRLISWTRHSPVR	YYRITYGETGGNISPV	QEFTVPPWATTATIS	GLKPGVDY-TITVYA	VTMPTINWRPHRPIS IDYRT 63

BC		DE		FG	
1	15 16	DAPAVTV3031	45 46	GSKS	60 61
WT	VSDVPRDLEVAATP	TSLLISWDAVAVTR	YYRITYGETGGNSPV	QEFIVPGSKSTATIS	GLKPGVDY-TITVYA
T10 . 37	VSDVPRDLEVAATP	TSLLIRERE---RR	YYRITYGETGGNSPV	QEFIVPGSKSTATIS	VTGRGDSPASSK
T10 . 12	VSDVPRDLEVAATP	TSLLISRKDRVSSR	YYRITYGETGGNSPV	GLEPGVDY-TITVYA	VTGRGDSPASSK
T10 . 21	VSDVPRDLEVAATP	TSLLISWHMATHPNTR	YYRITYGETGGNSPV	QEFIVPGSKSTATIS	GLEPGVDY-TITVYA
T10 . 40	VSDVPRDLEVAATP	TSLLSSWYLCTGNRR	DYRITYGETGGNSPV	QEFIVPGSKSTATIS	VTGRGDSPASSK
T10 . 31a	VSDVPRDLEVAATP	TSLLISWRTPASPHG	YYRITYGETGGNSPV	QEFIVPGDVY-IPSRCM	QEFIVPGDVY-TITVYA
T10 . 41	ISDVPRDMEVVAATP	TSLLISWMMAPHDR	YYRITYGETGGNSPV	EEFTVPLLWPTATIS	GLKPGVDY-AITVYA
T10 . 13	VSDVPRDLKVVAAATP	TSLLISWFPDNATPR	YYRITYGETGGNSPV	QESTVPRYLSTATIS	GPKR-VDY-TIIVYA
T10 . 03	VSDVPRDLEVVAATP	TSLLISWMLRDRR	YYRITYGETGGNSPV	QEFIVPV-LFTTATIS	GLKPGVDY-TITVYA
T10 . 33	VSDVPRDLEVVAATP	TSLLISWSPNDahr	YYRITYGETGGNSPV	QEFIVPTFHEPTATIS	GRKPGVDYNTTITYA
T10 . 27	VSDVPRDLEVVAATP	TSLLVISWSPNDahr	YYRITYGETGGNSPV	QEFIVPGSKSTATIS	GLKPGVDY-TNTVYA
T10 . 05	VSDVPRDLEVVAATP	TSLLISWSPNDahr	YYRITYGETGGNSPV	QEFIVPGSKSTATIS	GLKPGVDY-TNTVYA
T10 . 01	VSDVPRDLEVVAATP	TSQLISWTTRHSPPVR	YYRITYGETGGNSPV	QEFIVPPWATATIS	VTDQSQSYTYYSNPIS
T10 . 34	VSDVPRDLEVVAATP	TSRLLISWNRSGLQSG	YYRITYGETGGNSPV	QEFIVPPWATATIS	VTDQSQSYTYYSNPIS
T10 . 36	VSDVPRDLEVVAATP	TXRLISWNRSGLQSX	YYRXTYGETGGNSPV	QEFIVPPWATATIS	VTDQSQSYTYYSNPIS
T10 . 30	VSDVPRDLEVVAATP	TSRLLISWNRSGLQSR	YYRITYGETGGNSPV	QEFIVPPWASIA-IS	VTMPTNWRFPHRPIS
T10 . 06	VSDVPRDLEVVAATP	TSRLLISWNRSGLQSR	YYRITYGETGGNSPV	QEFIVPPWASIAATIS	VTMPTNWRFPHRPIS
T10 . 17	VSDVPRDLEVVAATP	TSRLISCNRSGLQSR	YYRITYGETGGNSPV	QEFIVPPWASIAATIS	VTMPTNWRFPHRPIS
T10 . 18	VSDVPRDLEVVAATP	TSRLISWNRSGLQSR	YYRITYGETGGNSPV	QEFIVPPWASIAATIS	VTMPTNWRFPHRPIS
T10 . 39	VSDVPRDLEVVAATP	TSRLISWRPTSNPPR	YYRITYGETGGNSPV	QEFIVPPWASIAATIS	VTMPTNWRFPHRPIS
T10 . 02	VSDVPRDLEVVAATP	TSRLISWRPGRTYXR	YYRITYGETGGNSPV	QEFIVPXWANTATIS	VTMPTNWRFPHRPIS
T10 . 08	ISDVPRDLEVVAATP	TSLLISWRPHFDR	YYRITYGETGGNSPV	QEFIVPPWATATIS	VTMPTNWRFPHRPIS
T10 . 20	VSDVPRDLEVVAATP	TSRLISWSPRRTNTR	YYRITYGETGGNSPV	QEFIVPPWGTIATIN	VTMPLSPPTTLHPP- -NYRPT
T10 . 29	VSDVPRDLEVVAATP	TSQOLISWPFGMYPSR	YYRITYGETGGNSPV	QEFIVPPWGTIATIN	VTMPLSPPTTLHPP- -NYRPT
T10 . 15	VSDVPRDLEVVAATP	TSLLISWHTERSFPR	YYRITYGETGGNSPV	QEFIVPPWARTATIS	GLKPGVDY-TITVYA
T10 . 15	VSDVPRDLEVVAATP	TSLLISWHTERSFPR	YYRITYGETGGNSPV	QEFIVPPWGSATIS	GLKPGVDY-TITVYA
T10 . 35	VSDVPRDLEVVAATP	TSQLISWKSHTFHPR	YYRITYGETGGNSPV	QEFIVPPWGSATIS	GLKPGVDY-TITVYA
T10 . 26	VSDVPRDLEVVAATP	TSLLISWRPQVVSTR	YYRITYGETGGNSPV	QEFIVPPWASTAALS	GLKPGADY-TITVYA
T10 . 14	VSDVPRDLEVVAATP	TSRLLISWRPTSNHPR	YYRITYGETGGNSPV	QEFIVPPWASTAALS	VTLNRSPPNSARPI
S08 . 02	VSDVPRDLEVVAATP	TSRLISWNRSGLQSR	YYRITYGETGGNSPV	QEFIVPPWASIAATIS	VTNHKANHDAEPI
S08 . 03	VSDVPRDLEVVAATP	TSRLISWNRSGLQSR	YYRITYGETGGNGPV	QEFIVPPWASIAATIS	VTNMSDTKYDDPIS

Đến năm 1950, dân số là 1.000.000, và năm 1960 là 1.500.000.

		BC	DE	FG
1	1.5	16	DAPAVTV3031	45 46 GSKS 60 61
WT	VSDVPRDLEVVAAATP	TSLLISWINDAPAVTVR	YYRITYGETGGNSPV	45 46 GSKS 60 61
T14 .25	VSDVPRDLEVVAAATP	TSLLISWMDTHNAYNG	YYRITYGETXGNSPV	QEFITVPGSKSTATIS GLKPGVDY-TITVYA
T14 .03	VSDVPRDLEVVAAATP	TSLLIXWTRTNANTR	YYRITYGETGGNSPV	REFITVPHPEVTATIS GLKPGVDD-TITVYA
T10 .06	VSDVPRDLEVVAAATP	TSRLISWNRSGLQR	YYRITYGETGGNSPV	QEFTAPNNPPTATIG GLKPGVDY-TITVYA
T14 .12	LSDVP RDLEVVAAATP	TSRLISWNRSGLQR	YYRITYGETGGNSPV	QEFTVPPWASIATIS GLKPGVDY-TITVYA
T14 .13	VSDVPRDLEVVAAATP	TSRLISWNRSGLQR	YYRITYGETGGNSPV	QEFTVPPWASIAIS GLKPGVDY-TITVYA
T14 .17	VSDVPRGLEVVAAATP	TSRLISWNRSGLQR	YYRITYGETGGNSPV	QELTVPPWASIATIS GLKPGVDY-TITVYA
T14 .05	VSDVPRDLEVVAAATP	TSRLISWNRSGLQR	YYRITYGETGGNSPV	QEFTVPPWASIATIS GLKPGVDY-TITVYA
T14 .14	VSDVPRDLEVVAAATP	TSRLISWNRSGLQR	YYRITYGETGGNSPV	QEFTVPPWASMATIS GLKPGVDY-TITVYA
T14 .23	VSDVPRDLEVVAAATP	TSRLISWNRSGLQR	YYRITYGETGGNSPV	QEFTVPPWASIATIS GLKPGVDY-TITVYA
T14 .26	VSDVPRDLEVVAAATP	TSRLISWNRSGLQR	YYRITYGETGGNSPV	QEFTVPPWASIATIS GLKPGVDY-TITVYA
T14 .24	VSDVPRDLEVVAAATP	TSRLISWNRSGLQR	YYRITYGETGGNSPV	QEFTVPPWASIATIS GLKPGVDY-TITVYA
T14 .20	VSDVPRDLEVVAAATP	TSRLISWNRNIPIAR	YYRITYGETGGNSPV	QEFTVPPWASIATIS GLKPGVDY-TITVYA
T14 .19	VSDVPRDLEVVAAATA	TSQLISWPWSXPTR	YYRITYGETGGNSPV	QEFTVPPWASIATIS GLKPGADY-TITVYA
T14 .11	VSDVSRDLEVAATP	TSLLISWNPNRSFAR	YYRITYGETGGNSPV	QEFTVPPWASTATIS GLKPGVDY-TIAYVA
T14 .10	VSDVPRDLEVVAAATP	TSRLISWRPGRTYSR	YYRITYGETGGNSPV	QEFTVPPWASIATIG GLKPRVDY-TITVYA
T14 .22	VSDVPRDLEVVAAATP	SSRLISWRPGRTYSR	YYRITYGETGGNSPV	QESTVPPWANTATIS GLKPGVDY-TITVYA
T14 .21	VSDVPRDLEVVAAATP	TSRLISWRPGRTYSR	YYRITYGETGGNSPV	QEFTVPPWANTATIS GLKPGVDY-TIAYVA
T14 .01	VSDVPRDLEVVAAATP	TSRLISWDNSRPNTR	YYRITYGETGGNSPV	QEFTVPPWANTATIS GLKPGVDY-TITAYA
T14 .06	VSDVPRDLEVVAAATP	TSLLISWTRTNASTR	YYRITYGETGGNSPV	QEFTVPPWGSATIS GLKPGVKY-TITVYA
T14 .08	VSXVPRDLEVVAAATP	TSXLISWXPXRSHDR	YYRITYGETGGNSPV	QEFTVPPNEWWI--S GLKPGVDY-TITVYA
T14 .02	VSDVPRDLEVVAAATP	TSQLISWMTPHNVR	YYGITYGETGGNSPV	QEFTVPPWGTIATID GLKPGVGY-TITVYA
T14 .15	VSDVPRDLEVVAAATS	TGLLISWRTPASPHG	YYRITYGETGGNSPV	QESTVPTGNATATIS GLKPGVDY-TITVYA

FIGURE 25 (Page 3)

ROUND M12 (24)

Figure 25 shows the sequence of operations for Round M12 (24). The operations are grouped into four main sections: BC, DE, FG, and G. The operations are numbered sequentially from 1 to 140. The operations are as follows:

WT	1	15	16	DAPAVTV3031	45	46	GSKS	60	61	75	76GRGDSPASSK 90
M12 . 05	VSDVPRDLEVVAAATP	TSLLISWDAVATVR	YYRITYGETGGNSPV	QEFTVPGSKSTATIS	GLKPGVDY-TITVYA	VTGRGDSPASSKPI	INYRT	33			
M12 . 17	VSDVPSDLEVVAAATP	TSLLISWSPNDAHR	YYRITYGKTGDSPV	QEFTVPGSKSTATIS	GLKPGVDY-TSVVYA	VTDOQSYTYYSNPIS	INYRT	117			
M12 . 12	VSDVPSDLEVVAAATP	TSLLISWEQSPTXGR	YYRITYGETGGNSPV	QEFTVPGSKSTATIS	GRKPGADY-TITVYA	VTIEKDRIPLFGPI	ISYRT	118			
M12 . 17	VSDVPSDLEVVAAATP	TSLLISWEQSPTYGR	YYRITYGETGGNSPV	QEFTVPGSKSTATIS	GRKPGADY-TITVYA	VTIEKDRIPLFGPI	ISYRT	119			
M12 . 06	VPDVPRDLEVVAAATP	TSLLISWEQSPTXGR	YYRITYGETGGNSPV	QEFTVPGSKSTATIS	GRKPGADY-TITVYA	VTIEKDRIPLFGPI	ISYRT	120			
M12 . 01	VSDVPRDLEVVAAATP	TSLLISWDTHNAYNG	YYRITYGETGSSPA	QEFTVPHPEVTATIS	GLKPGVDY-TITVYA	VTIHMPLRIFGPI	INYRT				
M12 . 01	VSDVPRDLEVVAAATP	TSRLLISWNRSGLQSR	YYRITYGETGGNSPV	QEFTVPPWASIATIS	GLKPGVDY-TITVYA	VTIDESDTKYDDPV	INYRT	1			
M12 . 24	VSDVPRDLEVVAAATP	TSRLLISWNRSGLQSR	YYRITYGETGGNSPV	QEFTVPPWASIATIS	GLKPGVDY-TITVYA	VTIDESDTKYDDPV	TNYRT	22			
M12 . 25	VSDVPRDLEVVAAATP	TSRLLISWNRSGLQSG	YYRITYGETGGNSPV	QEFTVPPWASIATIS	GLKPGVDY-TITVYA	VTPNVGRLDTRYPI	IDCRT	123			
M12 . 23	VSDVPRDLEVVAAATP	TSRLLISWR TMPVSTAR	YYRITYGETGGDSPV	QEFTVPPWASIATIS	GLKPGVDY-TITVYA	VTSNVGRLDTRYPI	INYRT	124			
M12 . 04	VSDVPGDLEVVAAATP	TSLLIGWSMTPNMPR	YYRIAYGETGGDSPV	QEFTVPPWASIAAIS	GLKPGADY-TITVYA	XTSATPSRPNVHPIS	INLTT	125			
M12 . 03	VSDVPRDLEVVAAATP	ISQLTISWQOPNNGSR	YYRIAYGETGGNSPV	QEFTVPPWASIAIIG	GLKPGVDY-TITVYA	VTHRDT-----PIS	INYRT	126			
M12 . 07	VXDVPRDlxvxxATP	TSLLISXRSGNRTR	YYRITYGDTGGNSPV	REFTPAREQTAT-S	GLKPGVDY-AITVYA	ATHGKPPHIHT----INYRT	127				
M12 . 13	VSDVPRDLEVVAAATP	TSRLLISWRPGRTYSR	YYRITYGETGGNSPV	QEFTMPFWATVAIS	GLKPGVDY-TITVYA	VTTHNSTAQPEYPIP	FNRRRT	128			
M12 . 09	VSDVPRDLEVVAAATP	TSRLLISWRPGRAYSR	YFRITYGETGGNSPV	QEFTVPPWANTATIS	CLKPGVDY-TITVYA	VAFPPGYPLTEMPIS	INYRT	129			
M12 . 16	VSDVPRDLEVVAAATP	TSRLLISWRPGRTYSR	YYRITYGEAGGNSPV	QEFTVPPWANTATIS	GLKPGVDY-TIAVYA	VTFPPRYPLTEMPIS	INYRA	130			
M12 . 22	VSDVPRDLRVAATP	TSRLLISWRPASNPAR	YYRITYGETGGNSPV	QEFTVPPWASIATIS	GLKPGVDY-TITVYA	VTDKSGTYRYDDPIS	INYRT	131			
M12 . 26	VSDVPRDLEVVAAATP	-SLLISWRPPADLNR	YYRITYGETGGNSPV	QEFTVPPWATIG	GLKPGVDY-TTVVYA	VTAQTGHRLHDKPI	INYRT	132			
M12 . 15	VTDVPRGLKIVAAATP	-SLLISWRNAKDPGR	YYRITYGETGGSSPV	QEFTVPPWGTIAIN	GLKPGVDY-TITVYA	VTHRDT-----PIS	INYRA	133			
M12 . 18	VSDVPRDLEVVAAADP	HQPLICWASPPMCR	YYRITYGESGGNSPV	QEFTVPPWATAAIS	GLKPGVDY-TITVYA	VTATNPGTQHRFIP	INYRT	134			
M12 . 14	VSDVPRDLKIVAAATP	TSRLLISWTHDNVPAR	YYRITYGETGGNSPV	QEFTVPPWATIG	GLKPGVDY-TITVYA	VTDESWDRSMDPIS	INCRT	135			
M12 . 21	VSDVPRDPVVVAATP	TSLLISWYRHTYDR	YYRITYGETRGNNSPI	REFTPPNATATIS	GLKPGVDY-TITVYA	VTLYTGHRPEHPI	INYRT				
M12 . 19	VSDVPRDLEVVAAATP	TGJLJISWRNMQYTPR	HYGIFTYGETGGNSPV	QEFTVPELNPTATIS	GLKPGVDY-TIAVYA	VTDAYDVHTKRPIS	IN-RT	136			
M12 . 08	VSDVPRDLEVVAAATP	TSLLNVP-----IIR	YYRITYGETGGNSPV	QEFTVPAKAIATIS	GLKPGVDY-TITVYA	VTONGTPRVIYGPIS	INYRT	137			
						VTSHRNHFHVETPI	INYQA	138			
								139			
								140			

FIGURE 25 (Page 4)